

§Appl. No. 10/535,107  
Amdt. dated May 7, 2009  
Reply to Office Action of, November 7, 2008

**Listing of Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**1. (Currently Amended)**     ~~Device~~ A device for supplying liquids in vending machines for food or drinks, the device being valveless and comprising a heating arrangement elements (3) for heating up said liquids and an electric drive pumping group (4; 101), characterized in that each pump of said pumping group (4; 101) comprises has an- intake (4'; 102a, 102b), at least a first and a second intake-duct vertical output duct (8a-8b, 8c-8d, 8e-8f, 800a, 800b) for conveying liquids contained in a tank (2) to corresponding mixing devices (7a, ..., 7F) each being and is equipped with at least an impeller (11a, ..., 11c, 110a, 110b), housed in a shell (12, 103) having an open bottom and a curved side wall (12a), said first and second output ducts intake-duct (8a-8b, 8c-8d, 8e-8f) being each having an intake (1a-1b, 1c-1d, 1e-1f) arranged on a vertical tangent of the curved side wall 12a) of said shell (12, 103), the output ducts being selectively activated according to the direction of rotation of said at least one impeller (11a,..., 11e) (11a,..., 11e) of in said pumping group (4, 101) and the intakes (1a-1e) and vertical outlet ducts being valveless and unobstructed.

**2. (Currently Amended)**     ~~Device~~ The device according to claim 1, characterized in that said pumping ~~group~~ groups (4) ~~comprises~~ each comprise at least a pump (4a, 4b, 4c) equipped with said at least one impeller (11a, 11b, 11c).

**3. (Currently Amended)**     ~~Device~~ The device according to claim 2, characterized in that said at least one pump (4a, ..., 4c) is a centrifugal pump, in that said at least one impeller (11a, ..., 11c) is housed within a chamber (~~12, 103~~) defined by a shell (12, 103) and in that:  
-said first ~~intake duct~~ intakes (1a, 1c, 1e) output ducts (8a, 8c, 8e) ~~is~~ are oriented with respect to the curved side wall (12) of the shell (12) in a non-perpendicular direction, so as to receive the intake flow when said impeller (11a, 11b, 11c) has a first direction of rotation, and

- said second ~~intake duct~~ intakes of the vertical output ducts (8b, 8d, 8f) ~~is~~ are oriented with respect to the curved side wall (12a) of the shell (12) (12, 103) in a non-perpendicular direction, so as to receive an intake flow (11a, 11b, 11c) when the impeller (11a, 11b, 11c) has an opposite direction of rotation with respect to said first direction of rotation.

**4. (Currently Amended)**     ~~Device~~ The device according to claim 3, in which said shell (12, 103) is substantially ~~box-shaped~~ shaped as a round box and said first intakes (1a, 1c, 1e) of said first ducts (8a, 8c, 8e) and said second intakes (1b, 1d, 1f) of said second (8b, 8d, 8f) duct ducts are oriented in directions tangent to the curved side wall (12a) of the shell (12).

**5. (Currently Amended)**    ~~Device~~ The device for supplying food according to claim 2, characterized in that said at least one pump (4a, 4c) comprises an electric motor (9) connected to said at least one impeller (11a, .., 11c) through motion transmission means (10).

**6. (Currently Amended)**    ~~Device~~ The device according to claim 1, in which said pumping group comprises two pumps (400a, 400b) driven by the same electric motor by means of motion transmission means (10), each pump comprising: an impeller (11a, 11b), an intake opening (102a, 102b) and at least an intake duct that can be activated only in a given direction of rotation of the impeller (110a, 110b), said two pumps (400a, 400b) having opposite directions of rotation for the activation of the corresponding intake duct.

**7. (Currently Amended)**    ~~Device~~ The device for supplying food or drinks according to claim 3, characterized in that the direction of rotation of said at least one impeller (11a, ..., 11c, 110a, 110b) of said at least one pump (4a, ..., 4c, 400a, 400b) is operatively driven by an electronic interface (5) in accordance with signals sent to said electronic interface (5) from a selection keyboard (6).

**8. (Currently Amended)** ~~Device~~ The device for supplying food or drinks according to claim 3, characterized in that said at least first and second ~~intake duct~~ output ducts (8a-8b, 8c-8d, 8e-8f, 800a, 800b) are each in fluid connection with at least a mixing device (7a, ..., 7f).

**9. (Currently Amended)** ~~Device~~ The device for supplying food or drinks according to claim 8, characterized in that said at least one mixing device (7a, ...7f) is also in fluid connection with an intake duct (13a, ..., 13f) supplying said at least one mixing device (7a, ..., 7f) with soluble products.

**10. (Currently Amended)** ~~Device~~ The device for supplying food or drinks according to claim 5, characterized in that said electric motor (9) is controlled by said electronic interface (5).

**11. (Currently Amended)** ~~Device~~ The device for supplying food according to claim 5, characterized in that said motion transmission means (10) ~~comprise~~ comprises a drive shaft.

**12. (New)** The device of claim 1 wherein the curved side wall (12a) of the shell (12) is circular with the inlets (1a, 1c, 1e) of one of the outlet ducts (8a, 8c, 8e) being tangential in a first direction and the inlets (1b, 1d, 1f) of the other outlet ducts (8b, 1d, 1f) being tangential in a second direction, whereby as the impellers rotate (11a-11e) inlets (1b, 1d, 1e) in a first direction heated water flows into the first vertical outlet ducts (8a, 8c, 8e) and when the impellers (11a-11f)

rotate in the second direction hot water flows into the other vertical outlet ducts (8b, 8d, 8f).

**13. (New)** A device for supplying liquids to vending machines for heated food or drinks comprising:

a tank for containing liquid;

a heater in the tank;

at least one pump in the tank, the pump having a housing arrangement with at least one impeller therein driven by a reversable motor that can rotate the impeller in opposite directions;

first and second unobstructed, valveless intakes associated with the housing arrangement, the first intake being tangentially positioned on the curved vertical wall of the housing at a first location and the second intake being tangentially position on the curved vertical wall of the housing at a second location angularly removed from the first location by an angle sufficient to prevent displacement of liquid from the housing which the impeller is rotating clockwise and allowing displacement of liquid from the container when the impeller is rotating counter clockwise;

the first and second intakes being connected by first and second vertically extending, valveless and unobstructed outlet ducts to mixing devices for mixing the liquid with first and second additives to make first and second heated drinks, and

a motor controller for rotating the impeller in opposite directions to select first or second heated food or drinks.

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**14. (New)**        The device of claim 13 wherein there are a plurality of pumps, each having first and second intakes, and located in the tank for supplying more than two mixing devices to make more than two foods or drinks.

**15. (New)**        The device of claim 13 wherein the housing comprises vertically stacked first and second chambers each having an impeller, the impellers being driven by the same shaft that is rotated in opposite directions by the reversible motor to select the first or second outlet duct;

the first and second inlets for the connection to the first and second vertical outlet ducts being in the first and second chambers respectively and the first and second inlets opening to the tank for taking liquid from the tank.